activity of bacterial DNA. These results demonstrate that schizont extracts contain a novel and previously unknown ligand for TLR9, and suggest that the stimulatory effects of this ligand on PDCs may play a key role in immunoregulation and immunopathogenesis of human falciparum malaria.

12th International Congress of Immunology and 4th Annual Conference of FOCIS. Montreal, Canada. 18-23 July 2004.

MEASURING ALLELIC HETEROGENEITY IN *PLASMODIUM FALCIPARUM* BY HETERODUPLEX TRACKING ASSAY

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We developed a novel *Plasmodium falciparum* enotyping strategy based on the heteroduplex tracking assay (HTA) method commonly used to genotype viruses. Because it can detect both sequence and size polymorphisms, we hypothesized that HTA is more sensitive than current methods. To test this hypothesis, we compared the ability of HTA and nested PCR to detect genetic diversity in seventeen Thai samples; although nested PCR detected more variants in 2/17 cases, HTA identified more *P. falciparum* strains in 9/17 cases, suggesting that HTA is equal to if not more sensitive than nested PCR. Furthermore, HTA differentiated between re-infection and recrudescence in seven paired admission and recurrent patient samples. This study is a proof of concept that HTA is a sensitive allelic discrimination method able to determine genetic diversity in *P. falciparum* and warrants its use in studies of antimalarial drug efficacy.

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A NEW METHOD FOR DETECTION OF *PFMDR1* MUTATIONS IN *PLASMODIUM FALCIPARUM* DNA USING REAL TIME PCR

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Background: Surveillance for drug-resistant *Plasmodium falciparum* should be a component of malaria control programmes. Real-time PCR methods for the detection of parasite single-nucleotide polymorphisms (SNPs) and gene amplification could be useful surveillance tools.

Methods: A real-time PCR assay has been developed that identifies single nucleotide polymorphisms (SNPs) at amino acids 86, 184, 1034 and 1042 in the *P. falciparum* multi-drug resistant (*pfmdr1*) gene that may be associated with anti-malarial drug resistance.